

**CITY OF GAUTIER  
MEMORANDUM**

**To:** Mayor and Council  
**From:** Chad Jordan, Project Manager  
**Date:** March 31, 2016  
**Subject:** Options for adding additional capacity to the water system

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**REQUEST:**

City Council approve moving forward with one of the options below for increasing the current water capacity to meet MS Department of Health (MDH) requirements.

**BACKGROUND:**

According to our annual inspection performed by the MS Department of Health (MDH) dated Oct. 23, 2015, the City is currently at 123% of our capacity to provide water. It has been discussed that MDH uses a particular formula which does not consider the amount of water that can be produced by our wells in a 24 hour period, but rather tries to anticipate a worst case scenario for one moment in time. Also, MDH has added a category for commercial/industrial usage in 2015 and this had not been previously considered in our ratings. According to MDH, this formula is used throughout the State for all water systems and was developed thru years of collecting data. The capacity issue in Gautier has been forthcoming for several years.

After review of the calculations noted in the inspection, it was determined that a mistake was made and we are only at 102% of our design capacity rather than 123%. This has been confirmed by MDH and documentation is forthcoming.

Our water system consists of eight (8) groundwater wells which can pump a combined 4154 gallons per minute (gpm) according to recent pump tests. In terms of hydraulics, we have the ability to produce a total of 4,486,000 gallons in an 18 hour period (4154 gal/min x 60 min/hr x 18 hrs/day). Our customer base consists of a population of approximately 20,000 residents or about 7200 metered accounts. On an average day, our City uses approximately 1,200,000 gallons per day with a peak day usage of around 2,500,000. We also have 1,000,000 gallons of water storage capacity to assist with pressure and emergency situations. Commercial / Industrial customers account for 14% of our daily water usage and 37% of our customers use less than 3000 gallons per month. Over the past 3 years, our customer base has declined yet our well capacity has increased due to improved maintenance and upgrades.

In order to increase capacity, the following options should be considered:

1. Purchase water from JCUA = 1000 gpm, cost = \$19,000 per month which includes debt service for a \$400,000 metering station. Time to complete = 6 months from executing agreement.
2. Upgrade 3 of our existing wells = 600 gpm combined. We made adjustments to all wells 2 years ago in order to gain about 200 gpm combined. We've also recently upgraded the Lark and Westgate wells out of necessity. The upgrades recommended are for the Office,

Beasley and Mall wells and consist of replacing screens, upsizing motors, adding VFDs etc. Estimated cost = \$225,000. These wells will pump to the new ion exchange plant. These improvements can be phased as follows:

**Phase 1** – upgrade the office well, \$75,000 expense, proceed immediately, complete by May 5, 2016. This timeframe is for construction only and excludes engineering, bidding, etc. The improvements will add another 200 gpm to our capacity which will result in a total of 97% capacity which will be sufficient to have the moratorium lifted.

**Phase 2** – upgrade the Beasley and Mall wells, \$150,000 expense, 2 months to complete, complete by October 1, 2016. These improvements will add another 400 gpm to our capacity which combined with Phase 1 will result in a total of 90% capacity.

3. Drill a new well = 600 – 800 gpm, estimated cost = \$500,000 plus engineering fees. Time to complete = 12 months from executing engineering contract.

**RECOMMENDATION:**

It is recommended that the council approve \$75,000 to upgrade the existing office well based on Option 2. This will gain approximately 200 gpm with a 97% capacity rating. According to a conversation with MDH, this will be sufficient to have the moratorium lifted until the next MDH inspection anticipated in October 2016. The Council should seek legal counsel to determine if this is an “emergency” situation which would allow for a more expedient completion. The council should also diligently move forward with upgrading the other 2 wells referenced in Option 2 above and complete by the next MDH inspection anticipated in October 2016. The cost for these improvements will be approximately \$150,000 and take 2 months to complete.